

SYSTEMS AND METHODS FOR DIGITAL UPCONVERSION FOR TELEVISION SIGNALS

ABSTRACT OF THE DISCLOSURE

Systems and methods for digital upconversion of baseband television signals that can be used in cable television headend systems are provided. In one embodiment, the system includes a digital frequency adjustment system and a digital to analog conversion system. In a feature of the embodiment, the digital frequency adjustment system consists of set of digital upconversion and upsample elements that shift upwards the frequency of baseband signals. In a further feature of the embodiment, a tree structure of sets of upsample and upconversion elements is used. In another embodiment, the system includes digital and analog frequency adjustment systems in which the frequencies of the input signals are partially upshifted within both the digital and analog domains. Methods for digital upconversion of television signals are also provided.

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